

# **CALIFORNIA PITCH CANKER TASK FORCE**

## **MINUTES**

September 11, 2003

Swanton Pacific Ranch

### **In Attendance**

Richard Hawley, Greenspace – The Cambria Land Trust  
Susan Frankel, USDA – Forest Service  
Wally Mark, Cal Poly  
Doug Piirto, Cal Poly  
Amy Jirta, Cal Poly  
Jason Pinkerton, Cal Poly  
Elicia Wise, Cal Poly  
Don Owen, California Department of Forestry and Fire Protection  
Tom Smith, California Department of Forestry and Fire Protection  
John Martinez, California Department of Forestry and Fire Protection  
Lloyd Bradshaw, The Hearst Corporation  
Detlev R. Vogler, USDA – Forest Service  
Bill Werner, California Association of Nurserymen  
David Yun, Cal Poly  
Julie Lydick, USDA – Forest Service  
Mike Branson, City of Carmel  
Rob Cain, Pebble Beach Co.  
Steve Staub, Del Monte Forest Foundation  
Mike Devey, CSIRO Australia  
David Bates, Monterey Pine Forest Watch  
Karen Ferlito, Monterey Pine Forest Watch  
Glenn C. Flamik, Forest City Consulting  
Tom Gordon, U.C. Davis  
Deborah Parker, Greenspace – The Cambria Land Trust

Chairman Staub called the meeting to order at 9:55 am.

### **Minutes**

Doug Piirto moved that the minutes be approved as submitted. Glenn Flamik seconded the motion, which was approved unanimously. Susan Frankel will contact Wolfgang Schweigkofcer for the title of the presentation he made at the last PCTF meeting.

### **Introductions**

Introductions of the assembled committee members and guests were made.

### **Strategic Action Plan**

Chairman Staub stated that the Strategic Action Plan is nearly complete, except for the updated research information from Tom Gordon. He added that it was unfortunate that Lisa Schicker was not in attendance at today's meeting, as she was most concerned about the formatting problems of the plan at the last meeting. Mr. Staub stated that he will contact Ms Schicker to ask if the format that is finally decided upon is more to her liking.

Chairman Staub noted that he completed the overview of the Task Force for the Plan and Jack Marshall completed his portion. Mr. Staub noted that the research priorities section only included Dr. Gordon's lab research and failed to include all the research being done on pitch canker. Mr. Staub felt that the Plan could go straight to the Executive Committee without any more review by the Task Force.

Several suggestions were made regarding the Strategic Action Plan:

- ◆ Statewide risk of pitch canker to uninfested areas.
- ◆ The first paragraph should be expanded to include other stands. Jack Marshall to provide status of Sonoma and Mendocino County.
- ◆ Wally Mark and Doug Piirto will provide information regarding their research to be included. Dr. Deborah Rogers' research should be included.
- ◆ Information regarding the conservation of Monterey Pines needs to be added.
- ◆ A distinction needs to be made between studies funded and studies that have applied for funding. Also, topics that need to be addressed should be prioritized.
- ◆ Formatting needs to be consistent throughout the Plan, with a table of contents and an executive summary.
- ◆ Universities should be included in the Partnerships section.

The Task Force agreed that the Executive Committee should complete the Strategic Action Plan. It was suggested that a meeting could be held in San Luis Obispo County with a conference call to those Executive Committee members who could not attend.

### **GIS/Website**

Susan Frankel reported that the funding for the PCTF GIS/Website creation was transferred to U.C. Berkeley in order to pay Maggie Kelly to work on the project. Unfortunately, the funding is not available at the present time. Ms Frankel stated that she contacted Ms Kelly yesterday. Ms Kelly has agreed to do the database and would like to get started with the project. Ms Kelly stated that she is willing to begin the project and work out the funding at a later date. Ms Frankel noted that a simple, statewide GIS database will be developed. Additionally, Pat Skyler, who currently maintains the PCTF website, will soon be retiring. Ms Frankel will inquire as to who is replacing Ms Skyler and if her replacement could continue maintaining the website. Another option would be to have Maggie Kelly handle both the GIS database and the website. Ms Frankel will look into the two options and make a proposal at the next meeting.

Richard Hawley noted the great service that has been provided by Pat Skyler. Steve Staub added that the Task Force has money in the treasury to pay for the new service. Wally Mark confirmed that there is \$26,000 in the Task Force bank account so that the service can be funded for a while. Mr. Hawley thought that perhaps Task Force funds could be matched by some Forest Service funds.

Doug Piirto stated that the Task Force should thank CDF and the Forest Service for providing the time and expertise for the PCTF website. Ms Frank noted that Pat Skyler will be retiring in January. Doug Piirto moved that a thank you letter be written to CDF, the Forest Service and Pat Skyler with copies sent to the appropriate people. Wally Mark seconded the motion, which passed unanimously.

Ms Frankel went on to inform the Task Force about the scope of the GIS site, which would include maps of lab confirmed pitch canker sites that can be downloaded. The site would be similar to that of the Oak Mortality map page. When asked about the site in Ventura County, Tom Gordon stated that it tested positive. The Task Force confirmed that the 19 counties in which pitch canker has been found are: San Diego, Orange, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Monterey, Santa Cruz, San Benito, San Mateo, San Francisco, Santa Clara, Alameda, Contra Costa, Marin, Napa, Solano, Sonoma, and Mendocino.

## **PCTF Future Plans**

Chairman Staub stated that the future plans for the PCTF have not explicitly been included in the Action Plan. He stated that the Task Force must decide if it wants to have only one or two research meetings in the future to keep the members current or if it wants to disband and have the Pest Council track pitch canker.

Doug Piirto stated that it would not be appropriate to disband the Task Force in midstream. He noted that there are a number of research projects that are continuing and the disease is still in 19 counties. Dr. Piirto added that the Task Force has not yet found a good way to manage stands of Monterey pines. Dr. Piirto concluded by stating that he felt the Task Force should stay together at least until all the research is done.

A number of ideas were discussed, including broadening the focus of the Task Force to a Monterey pine sustainability task force or a coastal California pest group. Mr. Hawley suggested that the Task Force meet two or three times during the year, including the research meeting at Davis and that it should continue providing educational seminars such as the one that was so successful this year.

Tom Gordon suggested having two meetings as a baseline and then additional meetings could be agreed to as needed. He noted that email communications have worked well for a lot of issues, which do not require a meeting of the whole group. Wally Mark added that there could be one meeting in Davis and one in Swanton Pacific. Susan Frankel noted that she was reluctant to commit to an annual educational program in view of the programs Dr. U Win is presenting. She asked Mr. Hawley to follow up with Dr. Win to see if he will be arranging a program this year. Glenn Flamik asked if the Task Force would be putting on any further golf tournaments. Mr. Staub confirmed that there would be no more golf tournaments.

Chairman Staub stated that there appeared to be a consensus for two to three meetings with educational programs on a regular basis. He added that the educational programs should be coordinated with Dr. Win's programs.

Doug Piirto asked if there would be elections at the next meeting. Chairman Staub directed staff to notify the Task Force regarding the elections. Also, Wally Mark noted that there should be a new proposal for a contract with Greenspace for administration of the Task Force in November. Doug Piirto moved to continue the administrative contract with Greenspace until November, at which time Greenspace will submit a new proposal. Glenn Flamik seconded the motion, which carried unanimously.

## **Removal and Utilization of High Risk Sudden Oak Death Host Material (SODBusters Project)** **Presented by Tad Mason – SODBusters Project Coordinator.**

Tad Mason began by explaining that SODBusters grew out of a concern regarding the greenwaste that needed to be removed in the 12 counties in California that are affected by Sudden Oak Death and the fact that the counties are mandated to reduce waste that goes into their landfills. A proposal was submitted to COMTF and funding was obtained for the project from the USDA Forest Service and CDF through the end of September 2004.

Mr. Mason described the Marin Resource Recovery Collection Yard operation. He noted that trucks bring in certified wood to the collection yard and are weighed as they enter and weighed again when they are empty to determine the tip fee. Presently the tip fee is subsidized by 50%. Mr. Mason showed the four bays at the facility that are available to receive material and also explained the dust collection and insect collection system they use to be certain that SOD is not being spread from the facility. He noted that the wood collected there is certified but not lab confirmed for SOD. They provide periodic SOD training sessions for tree care and landscape professionals. There is an upcoming session on Tuesday, September 23<sup>rd</sup> at the UC Cooperative Extension in Watsonville.

After being asked about transport distances, Mr. Mason noted that in Marin the material is brought from no farther away than 15 – 20 miles and that they encourage it to be brought in covered trucks. He added that

the tip fee is \$18.00. He stated that the Marina landfill is ready to begin receiving wood, but the Agriculture Commissioner would first like to see what happens in Marin. Again, transport distances and the importance of not hauling infested wood through uninfested areas was stressed by the Task Force.

Ms Frankel asked questions regarding composting of the woody products. Mr. Mason noted that the efficacy of compost is not yet confirmed. A discussion followed.

The most effective way to minimize SOD spread in the utilization stream is to try to concentrate infected material, keep it out of the waste stream, and handle it in a sanitary and appropriate way. Ms Frankel noted that one of the reasons she wanted to invite Mr. Mason to the Task Force meeting was to encourage the Marina landfill to accept pitch canker infected logs.

Glenn Flamik stated that the Marina landfill decided not to release untreated greenwaste and send it out of the area to insure that all materials got treated whether they were shown to be infected or not. Mr. Flamik didn't know if they found that to be economically feasible and was not sure of their current practice, as his information was obtained two years ago. Dr. Piirto asked if anyone was looking into the economics of tip fees. Mr. Mason stated that the economics have not yet been studied. Dr. Piirto noted that the economics of the project are very important to the overall success. Mr. Mason concurred that there must be an incentive to pay a tip fee, since elsewhere people can dump the wood for free.

### **IMPACT Project**

#### **Presented by Dr. Mike Devey, CSIRO – Australia**

Mike Devey began by stating that the IMPACT Project is an international investigation of resistance to pitch canker in *Radiata* pine. It originated from the 1998 IMPACT Workshop at Asilimar at which people from all over the world were able to witness the damage done by pitch canker. The project includes greenhouse evaluation and field trials of genetic species. The project was scheduled for five years, with the first part of the study completed twelve months ago.

The greenhouse screening consisted of 500 families with 20 seedlings per family which were raised at IFG and were then transferred to Pebble Beach. UC Davis technology was used with Det Vogler acting as the consultant. Approximately 100 families were selected for the field trial based upon results from the greenhouse study. The field trial work is beginning now.

Dr. Devey described the method of inoculation, including drilling a small hole in the stem of the seedling, applying a suspension of inoculum with a mix of VCGs, incubating the seedlings for six weeks and measuring the lesion length.

The data showed that the Chile open pollinated seedlings formed the longest lesions, while the shortest were found in the New Zealand open pollinated seedlings. Dr. Devey stated that they did not know why Cambria and Guadalupe had such high resistance. He said that heritabilities by population were quite high, with the highest being from Año Nuevo and the lowest in Chilean open pollinated families. One of the anomalies appears to be a significant male effect but not a significant female effect, meaning the male is contributing to resistance more than the female.

Dr. Devey stated that the New Zealand open pollinated and Chile open pollinated seedlings have significant heritability based on collections from mother trees. When the Australian data was analyzed using only the female half of the pedigree, heritability is estimated as 0.47, probably due to different males for each female. Also, the estimated gca from Australian CP families is low while the sca is high. The Australian CP families have significant male heritability, but no significant female heritability. The cross structure was very unbalanced with 1.8 crosses/female and 2.0 crosses/male. When the data is analyzed only for parents with two or more crosses, the male/female pattern is still the same. The best evidence for paternal inheritance must come from reciprocal crosses, which were not present.

The New Zealand and Chile results suggest that breeding for resistance is possible, but the researchers do not yet understand the genetics of resistance.

Dr. Devey said that the next step involves the field trials. They are needed to check resistance and sensitivity of families and the relevance of lesion length. Dr. Devey stated that they will try to complete the project within the five year time frame, before the seedlings become sexually mature.

A discussion followed, including the possibility of doing a field trial in Spain, the possibility of cloning for replication and if lesion length equates to survivability.

## **SWANTON PACIFIC PRESENTATIONS**

### **Overview**

#### **Presented by Dr. Wally Mark, Swanton Pacific**

Wally Mark welcomed members of the Task Force to Swanton Pacific Ranch. He explained that it is owned by Cal Poly after being donated to the university by Al Smith of Orchard Supply Hardware. There are 3200 acres at Swanton Pacific and 600 acres near Watsonville. It is a not-for-profit organization that is supported by revenues on the ranch and the Al Smith Endowment from Cal Poly. The last two years, the entire operation was supported by funds generated by the ranch. Swanton Pacific Ranch provides experiential education for university and middle school students with 14 weekend workshops and a weeklong summer program exploring natural resource careers.

Dr. Mark asked for a moment of silence in memory of the lives lost on September 11, 2001.

### **Welcome**

#### **Presented by Dr. Doug Piirto, Cal Poly**

Doug Piirto welcomed the members and guests of the Task Force to Swanton Pacific. Dr. Piirto thanked the California Department of Forestry and Fire Protection and various agencies for providing financial support to their projects. Dr. Piirto acknowledged the many collaborators in the room, particularly Tom Gordon from U. C. Davis.

He noted that there have been huge achievements in the field of research and that the results are starting to come in. Studies are in place that have potential for significant findings. Dr. Piirto thanked Wally Mark, the graduate students and the undergraduate students for all the hard work they have given to the project. He noted that there are 47 undergraduate students working on this program.

### **Development/Progress of Pitch Canker at Swanton Pacific Ranch**

#### **Presented by David I. Yun**

David Yun began by explaining that pitch canker was first found in California in 1986. It was discovered at Swanton Pacific Ranch in the early 1990's, with the first active sampling done in 1993. He stated that the objectives of this project were to establish permanent continuous forest inventory plots for monitoring and management, to determine the pitch canker ratings for all the Monterey pines in these plots and to analyze the data for pitch canker disease distribution and its progress at Swanton Pacific Ranch. The plots created were 1/5-acre circular plots that were 52 feet in diameter. Pitch canker was rated in the plots in 1999, 2000 and 2001.

Mr. Yun explained the rating systems, which included codes for no pitch canker, less than 10% branch tip infection, 10 – 50% branch tip infection, top kill, bole canker and dead due to pitch canker. The study found that the number of trees that died within the sampling years were 9 in 1999-2000 and 3 in 2000-2001. Statistically, the proportion of trees that died from 1999-2000 did not change in 2000-2001. They also found that the branch tip infection ratings were decreasing from 1999 to 2001.

Mr. Yun concluded by stating that the project now has established continuous forest inventory plots and defined pitch canker ratings. All the Monterey pines in the plots have been rated in 1999 through 2001. The study is initially indicating that the Monterey pines in Swanton Pacific Ranch may not be decimated by pitch canker as first thought in 1999. Mr. Yun ended his presentation with a series of aerial shots of the Monterey

pine-rangeland interface starting in 1928 through 2000. He stated that the next steps in the project involved a group opening, a seedling survival survey and data distribution through journal articles and a thesis.

There was a discussion regarding consistence between observers throughout the years of the study. Mr. Yun assured the Task Force that there was a link between the observers throughout the years of observation. An observer from a prior year would always be on hand to be able to compare the current year's observations. He stated that there was much discussion from tree to tree, so the observations were a process.

**Silvicultural Management Strategies for Pitch Canker Infected Año Nuevo Stands of Monterey Pine, First Year Seedling Survival Summary**  
**Presented by Elicia Wise, Project Coordinator**

Elicia Wise began by stating that this project was funded in 1999 by the California Department of Forestry and Fire Protection, whose funds were matched by the Agricultural Research Initiative (ARI). It is a six-year study with five phases which will run from 1999 through 2004. The project has provided jobs and experience to over 50 Cal Poly forestry students.

The objectives of the study were to evaluate and demonstrate uneven-aged management of native Monterey pine stands, to determine the optimum gap opening size for natural regeneration of Monterey pine seedlings, to determine the effectiveness of different site preparation treatments, to evaluate the survival of seedlings from various sources and to develop guidelines for management of Monterey pine stands affected by pitch canker.

Twenty-seven circular study plots were established in the Scott Creek Unit, 9 with 1/8-acre openings, 9 with 1/4-acre openings and 9 with 1/2-acre openings. They were each given three different silvicultural treatments: lop and scatter, machine pile and burn, and a control section. The total study area was approximately 8 acres and the total harvested area was 5-1/2 acres.

Before the treatment, the study did an inventory of all the trees in the plot, noted the natural regeneration and the understory vegetation. After the treatment, they again acquired data regarding the natural regeneration, understory vegetation and the seedling growth and survival. It was found that the overstory composition of the pre-treated plots included 54% conifer and 46% hardwood. This included 43% Monterey pines. The pre-treatment pitch canker infection levels were also determined.

The study did an ocular estimate of percent cover by major species in the understory vegetation survey. It found that post treatment recruitment varied by treatment and size and was difficult to summarize concisely. It was also determined that there has not been enough time as yet in the project to assess the effects of the treatments on the natural regeneration survey.

The study conducted post-treatment seedling monitoring, including a seedling survival inventory and seedling growth measures, both height and caliper. The seedling survival inventory took place at one month, three months, six months, nine months and twelve months. The growth measurements were taken at the beginning of the project, at six months and at twelve months.

The study concluded that there is a significant difference between some parents, sizes and treatment. It was determined that site preparation with pile and burn yielded greater odds of survival for planted seedlings than lop and scatter. There is a plan for follow-up vegetation management of the plots. The next step of the program will be a growth model for planted seedlings and further logistic regression work, as well as exploration of different survival models. Ms Wise plans to collaborate with the Pitch Canker Susceptibility Study. Ms Wise expects to complete her thesis and publish her work by March of 2004.

**A Silvicultural Management Strategy for Pitch Canker Infested Año Nuevo Stands of Monterey Pine  
Presented by Jason Pinkerton**

Jason Pinkerton stated that the objectives of the study included developing management strategies to help sustain native populations of Monterey pine, to monitor the growth and survival of seedlings from 13 open-crossed parent trees, to determine the optimum gap/canopy opening and to evaluate site preparation strategies. Mr. Pinkerton noted that the study is based upon the same twenty-seven plots described by Ms Wise in her presentation. In total, 2,280 seedlings were planted. The seedling growth measurements were taken in February 2003, August 2003 and will be taken again in February 2004. Survival checks were done in February 2003, May 2003, and August 2003, and will be done in November 2003 and February 2004. Annual data regarding the natural regeneration of all woody tree species was done in August 2003 and an annual ocular estimate of the understory vegetation was also done in August 2003. An interplanting occurred in February 2003, at which time 673 seedlings were replaced. The dead seedlings were replaced with seedlings from the original parents.

Mr. Pinkerton stated that he will be completing the final stages of the project and will be presenting his results in the future. He noted that some of the data has just been obtained and entered into the computer and that he will keep the Task Force informed of his progress.

**Pitch Canker Susceptibility on *Pinus Radiata* in the Año Nuevo Stand  
Presented by Amy Jirka**

Amy Jirka explained that the objectives of the project included testing the susceptibility in an open-crossed progeny and rating them after two rounds of *F. circinatum* inoculations as either susceptible, intermediate or resistant in order to produce stock of resistant Monterey pines. Ms Jirka stated that the seedlings were inoculated in late summer and the lesion lengths were measured after 8 or 13 weeks after which the trees were rated. In comparing the lesion length to the control lesion length, if the lesion length was equal to or less than 5 mm it was classified as resistant, greater than 6 mm but less than 10 mm was classified as intermediate and equal to or greater than 10 mm was classified as susceptible. The study found resistance in six of the twenty trees from Big Creek, one of the twenty trees from Swanton Pacific Ranch, two of the eleven trees from Rancho del Oso, five of the eleven trees from Peipmeyer and none of the trees from Coastways. There was intermediate resistance in ten of the trees from Big Creek, five of the Coastways trees, three of the Rancho del Oso trees, one of the Peipmeyer trees and three of the Swanton Pacific trees.

The project will go on to create resistant planting stock of native Monterey pine to be used within the Año Nuevo stand and other areas using three different methods: seedlings from open crossed resistant cone crop; resistant branch tip cuttings to produce hedges for clonal stock; and tissue culture seedlings. The program has additional ARI funding through June of 2006. They plan to extract meristem cells from resistant buds, grow seedlings in gnotobiotic conditions and create seedlings that can be shipped anywhere in the world, because they will be grown in a germ-free environment.

A discussion followed regarding other factors that could affect resistance in the various stands, including knobcone interface, elevation, position in the stand and the presence of boxwood. When discussing the advisability of replacing Monterey pines in native stands with clonal stock it was agreed that this would not be preferable because it would narrow the genetic pool in the stand. However, it was stressed that it is important to inform homeowners that they should replace Monterey pine with Monterey pine. Also, CalTrans needs guidelines to use when working in native Monterey pine forests so that they plant Monterey pines from local populations in their projects and not Monterey pines from other areas.

**Sustainability of Monterey Pine (*Pinus Radiata*) in Mixed Pitch Canker Infested Stands in Año Nuevo,  
California  
Presented by Dr. Doug Piirto, Cal Poly**

Doug Piirto presented a report on a project he was working on at Swanton Pacific Ranch in conjunction with Dr. Sauli Valkonen of Metla, Finland. They were studying the Monterey pine aggregation advancing to the edge of the pasture on top of the ridge and the transition area downhill to Scotts Creek. The stand is

Monterey pine mixed with Douglas fir and hardwoods, is irregular and uneven-aged. Pitch canker was first noted in the study area in 1992 and was thoroughly surveyed in 1999. The management goal is to secure the presence of Monterey pine and launch and develop sustainable uneven-aged management of the stand. The project's objectives are to establish stand structures that promote Monterey pine growth, survival and regeneration and to reduce pitch canker impact. The problems the study wanted to address were to look at tree growth in stands with variable structures, what the effect of pitch canker is on growth, whether stand structures facilitate selection and position of Monterey pines, is regeneration present and what are the treatment options. Some of the data used for the study were tree diameter growth, tree height, mortality and regeneration

The study concluded that Monterey pine is not sustained at the current level under current conditions. There is a severe lack of Monterey pine and an excess of hardwoods in the small diameter classes. Survival and growth of small Monterey pine is severely restricted by high stand densities. The largest and oldest Monterey pine are growing very slowly. Pitch canker reduces Monterey pines growth and survival. The study concluded that Monterey pine regeneration in the study area is alarmingly scarce. The study determined that both gap and single tree selection treatments would benefit Monterey pine. With these methods, selection would be more flexible and would probably promote existing trees better. However, to promote regeneration is the key in this situation. Dr. Piirto stated that experiments in gap size and regeneration are in progress and felt that perhaps a combined treatment would work best.

In response to questioning, Dr. Piirto stated that these results apply to the Año Nuevo stand and would not apply to other stand structures, such as Cambria or Monterey. It was suggested that it would be worth expanding the study and looking at the growth model in the other stands. Dr. Piirto agreed that this would be desirable in order to determine ultimately how to manage those stands in the future. He stated that as funding becomes available and expertise is developed, that would be an important research area.

With the presentations by Swanton Pacific concluded, the Task Force meeting adjourned at 2:45 p.m. and members were led on a field trip of the Ranch.

### **ADDENDUM**

- ◆ Susan Frankel to contact Wolfgang Schweigkofcer for the title of his presentation.
- ◆ The Executive Committee to complete the Strategic Action Plan before the next Task Force meeting.
- ◆ Susan Frankel to continue to pursue GIS/Website funding/personnel. Additionally, letter to be sent to CDF, the Forest Service, Pat Skyler (with the appropriate copies) to thank her for all her work on the website.
- ◆ Staff to contact Dr. U Win to ascertain if he is arranging any programs for the coming year.
- ◆ Staff to determine which Task Force members are up for re-election at the next meeting.
- ◆ Staff to prepare new proposal for Task Force administrative work.